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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,767	12/02/2003	Aly M. Ismail	19308.0026U1	3264

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EXAMINER	
CHAN, RICHARD	
ART UNIT	**PAPER NUMBER**
2618	

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/725,767	ISMAIL, ALY M.	
	Examiner	Art Unit	
	Richard Chan	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Moudling (US 4,290,036).

With respect to claim 1, Moudling discloses the method for filtering Fig.5 a received signal in a wireless receiver, comprising: providing a received signal at terminals 1 and 2 to an amplifier 15 and 16; and inverting the impedance of the received signal at the output of the amplifier using an inductance. (Col.4 lines 35 – Col.5 lines 18)

With respect to claim 2, Moudling discloses the method of claim 1, further comprising inverting the impedance of the received signal at the output of the amplifier using a voltage controlled current source to transform the inductance applied to the received signal to a capacitance. (Col.2 lines 28-57)

With respect to claim 3, Moulding discloses the method of claim 2, further comprising implementing the voltage controlled current source as a pair of

transconductance amplifiers 15 and 16.

With respect to claim 4, Moulding discloses the method of claim 3, further comprising implementing the inductance at the output of the amplifier using a pair of voltage controlled current sources and a capacitance. (Col.3 line 55 to Col.4 lines 13)

With respect to claim 5, Moulding discloses the low-noise filter for a wireless receiver, comprising: an amplifier 15 and 16; and an impedance inverter configured to transform inductance applied to a received signal to a capacitance. (Col.4 lines 35 – Col.5 lines 18)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moulding (4,290,036) in view of Long (US 6,026,286).

With respect to claim 6, Moulding discloses the low-noise filter of claim 5, however does disclose an imbodiment of the invention wherein the impedance inverter further comprises an inductor coupled to the output of the amplifier.

The Long reference discloses an embodiment of the invention Fig.5 wherein the invention comprises inductors 550 and 552 coupled to the output of the amplifier in order to perform impedance matching within the RF IC. (Col.6 lines 47-57) and (Col.7 lines 1-53)

It would have been obvious to one of ordinary skill in the art to implement the inductors to the output of the low noise amplifier as disclosed by Long in order to provide an impedance matching technique disclosed to the low-noise amplifier as disclosed by Moulding.

With respect to claim 7, Moulding and Long combined discloses the low-noise filter of claim 6, Moulding continues to disclose wherein the impedance inverter further comprises: a pair of transconductance amplifiers 16 and 15; and at least one capacitance 7 coupled to the output of one of the transconductance amplifiers. (col.6 lines 37-61)

With respect to claim 8, Moulding and Long combined disclose the low-noise filter of claim 7, wherein the impedance inverter removes direct current (DC) offset present at the input of the amplifier. (Col.6 lines 32 – Col.7 lines 19)

Claim 9, and 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moulding (US 4,290,036) in view of Moffat (US 6,906,584).

With respect to claim 9, Moulding discloses an amplifier, a filter and an impedance inverter configured to transform inductance applied to a received signal to a capacitance, however Moulding does not specifically disclose a portable transceiver, comprising: a modulator configured to receive and modulate a data signal; an upconverter configured to receive the modulated data signal and provide a radio frequency (RF) signal; a transmitter configured to transmit the RF signal; and a direct conversion receiver. (Col.4 lines 35 – Col.5 lines 18) and (Col.1 lines 44-64)

The Moffat reference however discloses wherein a portable transceiver, comprising: a modulator 120 configured to receive and modulate a data signal; an upconverter 100 configured to receive the modulated data signal and provide a radio frequency (RF) signal; a transmitter 102 configured to transmit the RF signal; and a direct conversion receiver. (Col.7 lines 35- Col.8 lines 50)

It would have been obvious to one of ordinary skill in the art to implement the filter configuration as disclosed by Moulding with the actual transceiver circuit structure as disclosed by Moffat in order to filter DC offset signals in a mobile transceiver.

With respect to claim 13, Moulding discloses means for amplifying the baseband signal; and means for inverting the impedance of the received signal at the output of the amplifying means to transform inductance applied to a received signal to a capacitance, however Moulding does not disclose a portable transceiver, comprising: means for modulating a data signal; means for upconverting the modulated data signal and provide a radio frequency (RF) signal; means for transmitting the RF signal; means for

converting a received signal to a baseband signal; (Col.4 lines 35 – Col.5 lines 18) and (Col.1 lines 44-64)

The Moffat reference however discloses a portable transceiver Fig.5, comprising: means for modulating a data signal 128; means for upconverting 102 the modulated data signal and provide a radio frequency (RF) signal; means for transmitting the RF signal; means for converting a received signal to a baseband signal. (Col.7 lines 35-Col.8 lines 50)

It would have been obvious to one of ordinary skill in the art to implement the filter architecture as disclosed by Moulding within the transmitter section as disclosed by Moffat in order to filter out the baseband signal and convert the inductance applied into a capacitance.

With respect to claim 14, Moulding and Moffat combined disclose the portable transceiver of claim 13, however Moulding continues to disclose the voltage controlled current source means for inverting the impedance of the received signal at the output of the amplifier to transform the inductance applied to the received signal to a capacitance. (Col.2 lines 28-57)

With respect to claim 15, Moulding discloses the gyrator-generated inductance applied at the output of the gain amplifier, the gyrator-generated inductance configured to transform inductance present at the output of the variable gain amplifier to a capacitance, however Moulding does not discloses a variable gain amplifier configured

to proves a received radio frequency (RF) signal. (Col.4 lines 35 – Col.5 lines 18) and (Col.1 lines 44-64)

The Moffat reference however discloses a system for removing direct current (DC) offset from a received signal from antenna 104, comprising: a variable gain amplifier 116 being controlled by control system 110 configured to proves a received radio frequency (RF) signal. (Col.7 lines 35- Col.8 lines 50)

It would have been obvious to one of ordinary skill in the art to implement the gyrator-generated inductance as disclosed by Moulding with the system of Moffat in order to filter out the baseband signal to deliver clearer transmission signals.

With respect to claim 16, the Moulding and Moffat reference combined discloses the system of claim 15, however the Moulding reference continues to disclose wherein the gyrator-generated inductance adds a high pass filter pole to the variable gain amplifier. (Col.1 lines 58- Col.2 lines 7)

With respect to claim 17, Moulding and Moffat combined disclose the system of claim 15, however Moulding continues to disclose wherein the gyrator-generated inductance shunts excess DC current present at the output of the variable gain amplifier to ground. (Col.6 lines 32 – Col.7 lines 19)

With respect to claim 18, Moulding and Moffat combined disclose the system of claim 15, however Moulding continues to disclose wherein, at a frequency above a high-pass cutoff frequency, the gyrator-generated inductance appears as a high impedance at the output of the variable gain amplifier. (Col.4 line 62- Col.5 line12)

Claim 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moulding (4,290,036) and Moffat (US 6,906,584) in view of Long (US 6,026,286).

With respect to claim 10, Moulding and Moffat combined disclose the portable transceiver of claim 9, however neither Moulding nor Moffat continues to disclose wherein the impedance inverter further comprises an inductor coupled to the output of the amplifier. (Col.1 lines 44-64)

The Long reference discloses an embodiment of the invention Fig.5 wherein the invention comprises inductors 550 and 552 coupled to the output of the amplifier in order to perform impedance matching within the RF IC. (Col.6 lines 47-57) and (Col.7 lines 1-53)

It would have been obvious to one of ordinary skill in the art to implement the inductors to the output of the low noise amplifier as disclosed by Long in order to provide an impedance matching technique disclosed to the low-noise amplifier as disclosed by Moulding.

With respect to claim 11, Moulding and Moffat combined disclose the portable transceiver of claim 10, Moulding continues to disclose wherein the impedance inverter

further comprises: a pair of transconductance amplifiers; and at least one capacitance coupled to the output of one of the transconductance amplifiers. (Col.6 lines 37-61)

With respect to claim 12, Moulding and Moffat combined disclose the portable transceiver of claim 11, wherein the impedance inverter removes direct current (DC) offset present at the input of the amplifier. (Col.6 lines 32 – Col.7 lines 19)

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The Elder reference (US 6,167,246) discloses a fully integrated all CMOS AM receiver.

The Haque reference (US 5,869,986) discloses a power level circuit.

The Beeman reference (US 4,387,337) discloses a ground locating device for cathodically protected steel piping.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Chan whose telephone number is (571) 272-0570. The examiner can normally be reached on Mon - Fri (9AM - 5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571)272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Richard Chan
Examiner
Art Division 2618
4/11/06

NAY MAUNG
SUPERVISORY PATENT EXAMINER